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SCHWARTZ, DARREN B				
ART UNIT		PAPER NUMBER		
2435				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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**Office Action Summary****Application No.**

10/523,797

**Applicant(s)**

PARK, SEUNG-BAE

**Examiner**

Darren B. Schwartz

**Art Unit**

2435

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 07 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) 33-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-32 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 21-40 are re-presented. Claims 33-39 stand withdrawn from consideration.

Claims 21-32 and 40 are presented for examined.

### ***Response to Arguments***

Applicant's arguments filed 07 December 2010 have been fully considered but they are not persuasive.

1. Applicant argues on page 11 of Remarks: "The position of a predetermined symbol, for example 'A1,' is compared to the predetermined user's KEY STATE. That is, the position of the symbols forming the displayed ARRAY STATE are compared to the user's predetermined KEY STATE to check if the symbols which are part of the password or PIN are properly positioned to allow access."

The Examiner in no way confirms nor dissents upon Applicant's interpretation or characterizations of Martino. Martino explicitly states in column 5, lines 4-19:

"When the user is satisfied that he has manipulated the array into the proper KEY STATE, he signals (for example by pressing a key or a button) to request verification of his password. This signal is detected at step 230. In response to this signal, in step 232 the system compares the user's KEY STATE definition (retrieved in step 206) with the displayed ARRAY STATE. If the users KEY STATE is found correctly in the FINAL ARRAY STATE (the displayed ARRAY STATE at the time the user signals that he is satisfied), in step 234 the system provides the user access to the controlled resource and, at the conclusion of the user's transaction, re-initializes the system in step 238. In

the event that the user's entry is determined (in step 232) not to be correct, then the transaction is aborted in step 236 and the system is re-initialized in step 238" (emphasis added by Examiner).

The Examiner emphasizes the ARRAY STATE represents the entire four-by-four grid as exemplarily displayed in Figures 3 & 4; the ARRAY STATE comprises the 4 rows or ARRAY's. For a user to be authenticated in the system of Martino, the user's KEY STATE must be found in the user's ARRAY STATE; ergo, each ARRAY must be in correspondence within the ARRAY STATE and thus form a correspondence with one-another. Figure 4 supports this position as "Fig. 4 is an example of the ARRAY of FIG. 3 having the KEY SYMBOLS (B1, A1, C2, D1) in the proper KEY STATE defining the users PIN" (column 5, lines 55-57). Thus, the rows are in correspondence with one-another. While, the users PIN is exemplified in Figures 3 & 4 by elements B1, A1, C2, D1, the exemplified KEY STATE presented in Figure 4 clearly demonstrates a relationship between (B2, A0, B1, C3), (B0, D3, A1, D2), (A3, C2, C1, D0) and (D1, A2, B3, C0).

2. Applicant argues on page 11 of Remarks: "Thus, to the extent a comparison of two symbols may be considered 'matching,' the symbol A1 is only compared to the display of symbol A1 in the user's predetermined KEY STATE, which is not displayed."

The Examiner initially notes the independent claims recite "receiving the password from a user matching a symbol within the certain cell of the matching board with a password symbol within the first cell of the reference board, to authenticate the received password, such that the matching board moves to allow the certain cell of the matching board to

correspond with the first cell of the reference board in response to the certain cell and the first cell not already being in correspondence with one another.”

In ascertaining support for such claimed limitations, the Examiner finds such support in Figures 34a, 34b and 35 where Applicant states on page 44, lines 10-17:

“The matching rule is directed to aligning the cells of the symbol board 1 and the matching board 3 in the same vertical row. Assuming that the cells to be matched for the password input are 3 of the symbol board 1 and 4 of the [m]atching board 3, as shown in Figure 34A, 3 of the symbol board 1 and 5 of the matching 3 are not aligned vertically to each other before the matching is performed. In the drawings, 3 of the symbol board 1 and 5 of the matching board 3 are specially hatched for an easier understanding.”

The Examiner notes the validation of the KEY STATE with the displayed ARRAY STATE of Martino is identical to Applicant's matching of the reference and matching boards with one-another.

Thus, the "matching" Applicant claims may be interpreted as putting the ARRAY's of Martino into the desired KEY STATE; when the ARRAY's of Martino are graphically manipulated into the desired KEY STATE, each ARRAY is in "correspondence" with the KEY STATE and so, "correspond" to each-other.

3. Applicant argues on page 12 of Remarks: "To the extent the second row of the array (for example D3, A1, D2, B0 in FIG. 3) may be considered a matching board, the second row of the array does not move. Rather, the cells or symbols, i.e., D3, A1, D2, B0, move within the second row. However, the second row, itself, remains fixed in the array. That is, to the

extent symbols D3, A1, D2 and B0 may constitute a matching board, the symbols simply move within the board while the board remains stationary. Thus, even if it could be said that the certain cell (identified as A1 ) of the second row was moved to correspond to the first cell (identified as C2) of the third row, it is only the cell or symbol itself that is moved, not the row, or matching board, as suggested by the Office Action. Thus, Martino does not disclose the matching board to be moved to allow the certain cell of the matching board to correspond with the first cell of the reference board, as claimed."

The Examiner finds Applicant is arguing against their own invention as Applicant's disclosure teachings, *at least*, the following:

"The user circulates the matching board 3 four times (or five times in the left circulation direction) in the right direction for the password input, and as shown in Figure 34B, 3 of the symbol board 1 and 5 of the matching board 3 are aligned in the same vertical row. At this time, the pairs of the cells 5 matched in the vertical row in the symbol board 1 and the matching board 3 are formed (1,2), (2,9), (3,5), (4,7), (5,6), (6,1), (7,3), (8,4) and (9,8). The total number of the same is 9. The above pairs are all number pairs obtained when moving the matching board 3 four times in the right circulation direction" (page 44, line 19 – page 45, line 9) (emphasis added by Examiner).

Applicant's movement of the cells, as taught by Applicant's disclosure of the invention, within the desired board constitutes a movement of the board as the cells within that board are rotated or scrolled in either direction (scrolling left or scrolling right). This is supported by Applicant's disclosure and the Martino reference. Thus Applicant's arguments are against both their own application and the cited art.

4. Applicant argues on page 13 of Remarks: "IN addition, these claims also recite features not shown by Martino. For example, Claim 28 recites 'wherein one of the matching board and the reference board is moved with respect to the other so as to overlap to match the cells of the matching board with the cells of the reference board" (emphasis added by Examiner).

The Examiner disagrees. Initially, the Examiner notes the claim language is broadly stated that the claim does not expressly disclose what element or elements "overlap" or "overlaps" the other. Thus, the Examiner broadly interprets the "overlap" to be the reference and matching boards, as mapped by the Examiner specific to the teachings of Martino, to correspond to the desired KEY STATE. Ergo, Figure 4 clearly demonstrates characters (B1, A1, C2, D1), which correspond to the four rows correspond or "overlap" with the desired KEY STATE. The Examiner notes that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims (*In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)). The Examiner notes the claim language does not require the reference and matching boards to overlap "each-other" but merely overlap something when being matched.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-24, 26-32 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Martino et al (U.S. Pat 5276314 A), as cited in the IDS dated 08 February 2005, hereinafter referred to as Martino.

Re claim 21: Martino teaches a method of inputting a password for authentication in a user authentication system (col 3, lines 14-15), the method comprising:

displaying a matching board [Fig 3, elts: D3, A1, D2, B0; Fig 4, elts: B0, D3, A1, D2] comprising a certain cell [Figs 3 & 4, elt: A1] and at least one other cell [Figs 3 & 4, elt D2, for example] and a reference board [Fig 3, elts: C1, D0, A3, C2; Fig 4, elts: A3, C2, C1, D0] comprising a first cell [Figs 3 & 4, elt C2] and at least one other cell [Figs 3 & 4, elt D0] on a user interface (Fig 1, element 106; col 2, lines 46-51); and

receiving the password from a user matching a symbol within the certain cell of the matching board with a password symbol within the first cell of the reference board to authenticate the received password (Fig 2, elt 232 & 234; col 4, lines 53-56; col 5, lines 4-19);

such that the matching board moves (col 5, lines 20-33) to allow the certain cell [Fig 3, elt "A1" & Fig 4, elt "A1"] of the matching board [Fig 3, elts "D3,A1,D2,B0" & Fig 4, elts "B0,D3,A1,D2"] to correspond with the first cell [Fig 3, elt "C2" & Fig 4, elt "C2"] of the reference board [Fig 3, elts "C1,D0,A3,C2" & Fig 4, elts "A3,C2,C1,D0"] in response to the certain cell and the first cell not already being in correspondence with one another (Fig 3, rows two and three are manipulated until, Fig 4, elts A1 & C2 are in proper "correspondence" with one another, thus forming the users KEY STATE; col 5, lines 55-56; col 5, lines 61-64),



wherein positions of the first cell [Fig 3, elt "C2" & Fig 4, elt "C2"] and the at least one other cell [Figs 3 & 4, elt C2] of the reference board [Fig 3, elts: C1, D0, A3, C2; Fig 4, elts: A3, C2, C1, D0] are altered (col 5, lines 59-64) and

positions of the certain cell and the at least one other cell of the matching board are not altered in response to the certain cell and the first cell not already being in correspondence with one another (Fig 2, elts 224, 226; col 4, lines 53-59; col 5, lines 26-29; col 5, lines 59-64; *the user engages the graphical user interface by using the manipulators to move, as per the example given by Martino, the different rows; the rows are rotated one-at-a-time based on the users use of the manipulators until the KEY STATE is achieved; if the user's KEY STATE has not been achieved, then the user's KEY STATE is not matched and thus the symbols do not match, ergo, they have not achieved a "correspondence" of the KEY STATE*).

Re claim 22: Martino teaches the receiving comprises receiving the password corresponding to a combination of the certain cell [Fig 3, elt "A1" & Fig 4, elt "A1"] of the matching board [Fig 3, elts "D3,A1,D2,B0" & Fig 4, elts "B0,D3,A1,D2"] matched by the user with the first cell of the reference board [Fig 3, elts "C1,D0,A3,C2" & Fig 4, elts "A3,C2,C1,D0"] having the password symbol [Fig 3, element C2 and Fig 4, element C2] (col 5, line 55 - col 6, line 2), and the certain cell [Fig 3, element C2 and Fig 4, element C2] of the matching board [Fig 4, elements: D3,A1,D2,B0] matched by the user with a second cell of the reference board comprising a second password symbol (Fig 4, elements: A1, C2, D1: col 5, lines 59-64).

Re claim 23: Martino teaches the displaying comprises displaying the matching board [Fig 3, elements: D3, A1, D2, B0; Fig 4, elements: B0, D3, A1, D2] comprising a plurality of

cells and the reference board [Fig 4, elements: A3, C2, C1, D0] comprising a plurality of cells (Figures 3 and 4), and

one or more other cells of the matching board is matched with corresponding one or more cells of the reference board comprising a symbol, concurrently with matching of the certain cell of the matching board with the first cell of the reference board having the password symbol, so as to prevent revealing of a symbol of the cell of the reference board matched with the certain cell of the matching board as the password symbol of the user (col 2, lines 20-31; col 3, lines 14-29).

Re claim 24: Martino teaches removing one of the matching board and the reference board after a predetermined time from displaying the matching board and the reference board (col 5, lines 1-3 and lines 16-19).

Re claim 26: Martino teaches one of the matching board [Fig 3, elements: D3, A1, D2, B0; Fig 4, elements: B0, D3, A1, D2] and the reference board [Fig 4, elements: A3, C2, C1, D0] is moved with respect to the other so as to place the cells of the matching board adjacent to and match with the cells of the reference board (col 6, lines 3-10).

Re claim 27: Martino teaches:

the displaying of the reference board [Fig 4, elements: A3, C2, C1, D0] comprises displaying a first reference board comprising a plurality of cells having respective symbols, the first reference board including the first cell having a symbol which is the password symbol of the user, and a second reference board [consider Fig 3, elements: A2, B3, C0, D1 and fig 4, elements: D1, A2, B3, C0] comprising a plurality of cells having respective symbols, the

second reference board including a symbol which is a second password symbol [Fig 3, element D1 and Fig 4, element D1] of the user (Figures 3 and 4; col 5, lines 20-33),

the displaying of the matching board comprises displaying the matching board comprising the plurality of cells having respective symbols, the matching board including the certain cell having a symbol private to the user (col 5, lines 4-19), and

the first and second reference boards [Fig 3, elements: D3, A1, D2, B0, C1, D0, A3, C2] are moved with respect to the matching board so as to line up the password symbol and the second password symbol with the symbol of the matching board private to the user to enter the password (col 5, line 55 – col 6, line 10).

Re claim 28: Martino teaches one of the matching board and the reference board is moved with respect to the other so as to overlap to match the cells of the matching board with the cells of the reference board (col 5, lines 4-19 and col 6, lines 3-10).

Re claim 29: Martino teaches the displaying of the reference board comprises displaying the reference board [Fig 4, elements: A3, C2, C1, D0] comprising the plurality of cells having respective symbols (Abstract), the reference board [Fig 4, elements: A3, C2, C1, D0] including the first cell having a symbol which is the password symbol [Fig 4, element: C2] of the user (col 5, lines 55-64),

the displaying of the matching board comprises displaying the matching board comprising the plurality of cells having respective symbols, the matching board including the certain cell having a symbol private to the user (Figures 3 and 4; col 5, lines 55-67), and

the matching board is moved with respect to the reference board so as to overlap the cells of the matching board with the cells of the reference board, including the certain cell of

the matching board having the symbol private to the user being overlapped with the first cell of the reference board having the password symbol to enter the password (col 5, line 55 – col 6, line 10).

Re claim 30: Martino teaches:

the displaying of the reference board [Fig 4, elements: A3, C2, C1, D0] comprises displaying the reference board [Fig 4, elements: A3, C2, C1, D0] comprising a plurality of cells having respective symbols[Fig 4, elements: A3, C2, C1, D0], the reference board [Fig 4, elements: A3, C2, C1, D0] including the first cell having a symbol which is the password symbol of the user (col 5, lines 55-64),

the displaying of the matching board comprises displaying the matching board comprising a plurality of cells having respective symbols, the matching board including the certain cell having a symbol private to the user (Figures 3 and 4; col 5, lines 55-67), and

the receiving of the password comprises receiving a password corresponding to a combination of the symbol of the matching board private to the user and the password symbol of the reference board privy to the user (Abstract; col 3, lines 30-50; col 5, lines 55-67).

Re claim 31: Martino teaches the displaying of the reference board [Fig 4, elements: A3, C2, C1, D0] further comprises displaying a second reference board [Fig 3, elements: A2, B3, C0, D1 and Fig 4, elements: D1, A2, B3, C0] comprising a plurality of cells having respective symbols, the second reference board [Fig 3, elements: A2, B3, C0, D1 and Fig 4, elements: D1, A2, B3, C0] including a cell having a second password symbol privy to the user [Fig 3, element D1 and Fig 4, element D1] (Abstract; col 3, lines 30-50; col 5, lines 55-67),

the displaying of the matching board further comprises displaying a second matching board comprising a plurality of cells having respective symbols, the second matching board including a cell having a second symbol private to the user (Abstract; col 3, lines 30-50; col 5, lines 55-67), and

the receiving of the password comprises receiving a password corresponding to a combination of the symbol private to the user and the password symbol, and a combination of the second symbol private to the user and the second password symbol (Abstract; col 3, lines 14-50).

Re claim 32: Martino teaches wherein one or more other cells of the matching board [Fig 3, elements: D3, A1, D2, B0; Fig 4, elements: B0, D3, A1, D2] is matched with corresponding one or more cells of the reference board [Fig 4, elements: A3, C2, C1, D0], concurrently with matching of the certain cell of the matching board with the cell of the reference board having the password symbol, so as to prevent revealing of the symbol of the cell of the reference board matched with the certain cell of the matching board as the password symbol of the user (col 2, lines 20-31; col 3, lines 14-29).

Re claim 33: Martino teaches one or more other cells of the matching board [Fig 3, elements: D3, A1, D2, B2; Fig 4, elements: B0, D3, A1, D2] is matched with corresponding one or more cells of the reference board [Fig 3, elements: C1, D0, A3, C2 and Fig 4, elements: A3, C2, C1, D0], concurrently with matching of the certain cell of the matching board with the cell of the reference board having the password symbol (col 5, lines 55-64), so as to prevent revealing of the symbol of the cell of the reference board matched with the

certain cell of the matching board as the password symbol of the user (Abstract; (col 2, lines 20-31; col 3, lines 14-29).

Re claim 40: Martino teaches the symbols are one of numbers, characters, graphics, pictures, and a combination thereof (Figures 3 and 4 teach a display containing letters and numbers; col 6, lines 3-10).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martino et al (U.S. Pat 5276314 A), as cited in the IDS dated 08 February 2005, hereinafter referred to as Martino, in view of Pimpo (U.S. Pat 6021653 A), hereinafter referred to as Pimpo.

Re claim 25: Martino teaches the reference board is refreshed to display the one or more cells so as to match the cells of the matching board with the cells of the reference board (col 5, lines 20-33 and lines 55-67).

However, Pimpo teaches:

the response to the one or more cells of the reference board [Fig 1, ring: LMN] corresponding to the one or more other cells of the matching board [Fig 1, ring: OPQ] not being displayed where one of the matching board and the reference board is moved with

respect to the other (Fig 1; col 5, lines 52-66; the Examiner notes the tumbler rings as shown in Figures 1, 3 and 6 contain one or more cells that are not being displayed when the board are moved with respect to the other).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Martino with the teachings of Pimpo, for the purpose of providing rotating dials on a user interface while best utilizing the user interface.

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTOL-892.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren B. Schwartz whose telephone number is (571)270-3850. The examiner can normally be reached on 7am-5pm EST, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. B. S./  
Examiner, Art Unit 2435  
/Kimyen Vu/  
Supervisory Patent Examiner, Art Unit 2435